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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,469	04/28/2000	JOSEPH A FERNANDO	UNF-9058-A	3786

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EXAMINER	
TRAN, HIEN THI	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/560,469	FERNANDO ET AL.	
	Examiner	Art Unit	
	Hien Tran	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) *28-40,45 and 46* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27 and 41-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-46* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 1, the status of the parent application should be updated.

Appropriate correction is required.

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 8-9, 19-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, the language of the claim is directed to method limitation which renders the claim vague and indefinite as it is unclear as to what structural limitation applicants are attempting to recite. See claims 9, 19-25 likewise.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-27, 41-44 are rejected under 35 U.S.C. § 103 as being unpatentable over Robinson et al (5,580,532) in view of JP 07-286514 and GB 1,481,133 (Johnson et al).

Robinson et al discloses a device 10 for the treatment of exhaust gas comprising:

a housing 12 and a fragile structure 18 mounted within the housing 12,

a support element 20 disposed between the housing 12 and the fragile structure 18, said support element comprising an integral, non-expanding sheet of ceramic fibers containing alumina and silica, said fibers having an average diameter of 1-10 microns.

The apparatus of Robinson et al is substantially the same as that of the instant claims, but is silent as to whether the fiber may be heat treated to crystalline form as claimed.

However, it appears that the claim is a product-by-process claim and when the patentability of a product-by-process claim is determined, the relevant inquiry is whether the product itself is patentable. *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972). If a product is the same as or would have been obvious to one having ordinary skill in the art from a product of the prior art, the product is unpatentable even though the prior art product was made by different process. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Since the product of the instant claim is substantial the same as that of Robinson et al, it is unpatentable even though the product of Robinson et al was made by different process.

In any event, JP 07-286514 discloses provision of a ceramic fiber mat disposed between the catalyst and a housing in which the ceramic fibers have been heat treated at temperature of 1300 ^{0}C in 4 hours to produce a crystalline structure having 0-10 % crystallinity as determined by x-ray diffraction. JP 07-286514 is silent as to the specific crystallite size thereof.

However, since in JP 07-286514, the ceramic fiber is heat treated within the temperature range and time as that of the instant claim, the crystallite size of the heat treated ceramic fiber will be the same as that of the instant claim.

Furthermore, GB 1,481,133 discloses the conventionality of providing ceramic fibers used for thermal insulation in which the ceramic fibers have been heat treated at temperature of 950 to 1050 ^{0}C from 10 minutes to one hour to produce a crystalline structure having crystalline size of less than 200 A.

It would have been obvious to one having ordinary skill in the art to heat the ceramic fibers in the catalytic converter of Robinson et al to form the crystalline structure with the specific percentage of crystallinity as taught by JP 07-286514 and with the specific crystallite

size as taught GB 1,481,133, if not inherent in JP 07-286514, since crystalline form of the ceramic fibers provides good resiliency which is required in mounting the ceramic fibers into the catalytic device.

The specific pressure of the support element in the modified apparatus of Robinson et al would be inherent therein. Furthermore, it should be noted that pressure is not a part of the device and therefore is of no patentable moment in apparatus claims.

With respect to claims 41-44, the use of needle punching to hold the ceramic fiber mat is well known in the art as evidenced by JP 07-286514.

Response to Arguments

9. Applicant's arguments filed 11/24/03 have been fully considered but they are not persuasive.

Applicants' arguments with respect to 112 issues are noted. However, it is unclear as to what structural limitation is implied with respect to holding pressure or melt spinning the fiber.

Applicants argue that the GB patent expressly teaches away from the instant time-temperature regimens treat fibers. Such contention is not persuasive as GB patent teaches that the ceramic fibers have been heat treated at temperature of 950 to 1050 ^{0}C from 10 minutes to one hour. The temperature of 950 to about 1050 ^{0}C in the GB patent falls well within the range of instant claim 1. The phrase of "about 1050 ^{0}C" in the GB patent would include 1050.1 ^{0}C (greater than 1050 ^{0}C) in instant claim 12. Since there is not much distinction between one hour (in GB patent) and one hour one second (greater than one hour in the instant claim 1), the time of one hour in the GB patent meets the instant claim 1.

Applicants argue that the JP patent does not teach to heat treat the ceramic fibers to produce a controlled crystallinity and crystallite size prior to formation of the blanket. Such contention is not persuasive as JP patent does disclose the process of heat treating the ceramic fibers at temperature of 1300 ^{0}C in 4 hours to produce a crystalline structure having 0-10 % crystallinity as determined by x-ray diffraction. JP patent is silent as to the specific crystallite size thereof. However, the GB patent is relied upon for such teachings.

Applicants argue that the table I of the instant application shows an unexpected result. Such contention is not persuasive as the examples in the table I show different fiber materials between the instant method and the method of the GB patent. Therefore it is unclear as to whether the results are due to different fiber materials or different methods of heat treating the fiber material.

It appears that applicants argue that the method of the instant claim provides better ceramic fibers that the method of the prior art. However, this may be applicable for method claims, not for the product itself.

In any event, since the instant claim is a product-by-process claim and when the patentability of a product-by-process claim is determined, the relevant inquiry is whether the product itself is patentable. *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972). If a product is the same as or would have been obvious to one having ordinary skill in the art from a product of the prior art, the product is unpatentable even though the prior art product was made by different process. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985).

Since the product of the instant claim is substantial the same as that of the primary reference, Robinson et al, it is unpatentable even though the product of Robinson et al was made by different process.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hien Tran

Hien Tran
Primary Examiner
Art Unit 1764

HT
February 6, 2004